



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,410	11/28/2003	Gavriel J. Iddan	P-5548-US	7399
49443 7590 01/03/2007 PEARL COHEN ZEDEK, LLP PEARL COHEN ZEDEK LATZER, LLP 1500 BROADWAY 12TH FLOOR NEW YORK, NY 10036			EXAMINER CONNELLY CUSHWA, MICHELLE R	
			ART UNIT 2874	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/03/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/722,410

Applicant(s)

IDDAN, GAVRIEL J.

Examiner

Michelle R. Connelly-Cushwa

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-13 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-13 and 18-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's Amendment filed October 12, 2006 has been fully considered and entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 19 are rejected under 35 U.S.C. 102(e) as being anticipated by
Karellas et al. (US 2003/0169847 A1).**

Regarding claim 19; Karellas discloses a device comprising:

- an imager (x-ray fluoroscopic imaging device; see the abstract and paragraph [0103]); and
- a fiber plate cover (125; see paragraph [0103]) disposed on sensor elements (124) of the imager, the fiber plate cover to transfer to the sensor element an image of an object in contact with the fiber plate cover while in vivo (see paragraph [0012]) device passes through a body lumen, the fiber plate cover configured to be contiguous with an outer wall surrounding the in vivo device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-13 and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balch (US 2004/0023249 A1) in view of Iddan et al. (US 5,604,531).

Regarding claims 6, 10, 11, 19 and 21-24; Balch discloses a imaging device (see Figure 9 and paragraph [0242]) comprising:

- an imager including a plurality of sensor elements (sensor array);
- a fiber plate cover (face plate) disposed on sensor elements (sensor array) of the imager, the fiber plate cover to transfer to the sensor element an image of an object in contact with the fiber plate cover; and
- an interaction chamber (reaction vessel);
- wherein the fiber plate (face plate) is configured to transfer an image of a sample (the sample is in the reaction vessel, which is placed directly on the face plate; see paragraph [0242]) in contact with an outer surface of the fiber plate cover (face plate) to the set of sensor elements (sensor array);

- wherein the imager captures an image with illumination (the illumination is from the excitation source; see Figure 9) from the direction of the sample (the sample is contained in the reaction vessel);
- wherein the fiber plate cover (face plate) is the only separation between the sample and the set of sensor elements (sensor array) and coherently transfers the image onto the sensor elements;
- wherein an indicator (biosite; see paragraph [0097]) is disposed in the interaction chamber (reaction vessel), the indicator (biosite) capable of reacting with a sample; and
- wherein the fiber plate cover (face plate) is in direct contact with the imager.

Balch does not disclose that the imaging device is for use with an in vivo device that passes through a body lumen, wherein the fiber plate cover is configured to be contiguous with an outer wall surrounding the in vivo device.

Iddan et al. discloses an in vivo video camera system that uses an imaging device including a CCD. Balch teaches that the imaging device has numerous advantages over prior art imaging devices including multiplexed molecular analysis, high throughput, low cost, automated operation, versatility, high resolution, and fast time-to-market because the device is based on proximal CCD detection. Since the in vivo video camera system disclosed by Iddan et al. employs proximal CCD detection, one of ordinary skill in the art would have found it obvious to replace the imaging device disclosed by Iddan et al. with the imaging device taught by Balch, wherein the fiber plate

cover is configured contiguous with an outer wall of the surrounding in vivo device in order to provide multiplexed molecular analysis in the in vivo system allowing for a more complex analysis in a faster time and to provide high throughput, automated operation, versatility and high resolution at a low cost.

Regarding claims 7 and 26; all of the limitations are taught as applied above, except for specifically stating that the fiber plate cover magnifies an image transferred by the fiber plate cover. One of ordinary skill in the art would have found it obvious to position and form the fiber plate cover to magnify an image passing through the fiber plate cover by optimally locating the fiber plate cover and determining the dimensions of the fibers forming the plate cover to magnify the image in order to allow small scale samples to be readily and more easily viewed, especially since imagers are commonly used to magnify images in the art.

Regarding claims 8 and 9; all of the limitations are taught as applied above, except for specifically stating that the device comprises a removable slide/fiber plate configured to hold a sample. Balch does disclose that the device comprises a reaction vessel (see Figure 9; and paragraphs [0095]-[0096]) that holds the sample, wherein the reaction vessel is generally thin and rectangular (see Figure 9) and may comprise reaction chambers, wells, microtiter plates, reaction substrates, etc. (see paragraphs [0095]-[0096]), and Balch does not disclose or suggest that the reaction vessel is fixed. One of ordinary skill in the art would have found it obvious to use a slide or fiber plate as the reaction vessel in the invention of Balch, since both slides and fiber plates are well known, readily available, and commonly used to hold various samples during analysis

Art Unit: 2874

processes. Furthermore, one of ordinary skill in the art would have found it obvious to have the reaction vessel, slide or fiber plate used to hold the sample in the imager disclosed by Balch be removable in order to provide a sample holder that may be easily cleaned and/or replaced, and to allow multiple samples to be pre-assembled in order to more efficiently analyze and compare multiple samples.

Regarding claim 12; the imager may be used to detect a color (wavelength) produced by the reaction (see paragraph [0213]).

Regarding claims 13; Balch does not specifically state that the device comprises a selectively permeable membrane in the interaction chamber. However, Balch does teach that the device is used to detect targeted molecules. One of ordinary skill in the art would have found it obvious to provide a selectively permeable membrane in the reaction vessel that allows the targeted molecules to permeate the membrane for sensing, while preventing other molecules from being sensed, since such arrangements are known and used to detect desired molecules in an effective manner.

Regarding claim 18; Iddan et al. teaches that the in vivo device comprises a battery.

Regarding claim 20; Balch does not specifically state that the fiber plate cover (face plate) is comprised of optical fibers aligned in parallel. Fiber optic faceplates, which Balch teaches are used in the invention in paragraph [0242], generally are formed from optical fibers aligned in parallel. Balch does not teach that the optical fibers forming the faceplate have any particular alignment. One of ordinary skill in the art would have found it obvious to use a fiber optical faceplate having optical fibers aligned

in parallel in the invention of Balch, since optical fibers are typically aligned in parallel in faceplates, and there is no suggestion from Balch to have the fibers be positioned in any other manner.

Regarding claim 25; Balch does not specifically state that the interaction chamber is enclosed. However, one of ordinary skill in the art would have found it obvious to enclose the interaction chamber to prevent environmental contaminants from deteriorating the sample and the resulting image.

Response to Arguments

Applicant's arguments with respect to claims 6-13 and 18-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2874

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning the merits of this communication should be directed to Examiner Michelle R. Connelly-Cushwa at telephone number (571) 272-2345. The examiner can normally be reached 9:00 AM to 7:00 PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562.


Michelle R. Connelly-Cushwa
Patent Examiner
December 20, 2006